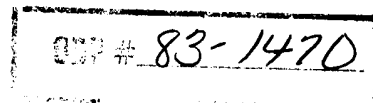


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ORD-1164-83

8 September 1983

MEMORANDUM FOR: Distribution

FROM

:

RECON Guard Program Manager
Information Systems Research Division
Processing and Analysis Technology Group
Office of Research and Development

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SUBJECT

:

RECON Guard System Revised Delivery Schedule

REFERENCES

:

- A. Interface Control Document dtd 19 July 1983
- B. Sytek Phase 1 Report (Attached)
- C. Sytek Revised Delivery Schedule (Attached)

I. Purpose:

The purpose of this memorandum is to present the revised RECON Guard System delivery schedule necessitated by the results of the preliminary Guard System interface tests to the RECON System. The Guard System will interface to the RECON System via the IBM Job Entry System (JES) as advised by ODP. The results of the preliminary testing indicated several important discrepancies between the actual JES operation and the JES information reflected in the ICD's through 19 July 1983 (Reference A). ODP/System Programming Division (SPD) is now working closely with the Guard System manufacturer (Sytek, Inc.) to derive the actual JES operation expected in response to the set of Guard System inputs. Details of the preliminary interface tests are given in Reference B. Reference C is the revised delivery schedule which is presented relative to the (now necessary) interface definition phase. This phase will require approximately 4-6 weeks for JES interface definition and redesign of Guard interface software. During this interim period, the contractor has been instructed to initiate several procedures and continue Guard System integration testing. Thus the interim time will be efficiently utilized.

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SUBJECT: RECON Guard System Revised Delivery Schedule

II. Preliminary Acceptance Tests (29-30 August 1983):

Due to the JES interface problem, the Guard System software module necessary to realize an operational link to the RECON System via JES must be redesigned. Thus, formal acceptance tests could not be conducted. Guard System component testing/verification was completed. All components of the Guard System performed properly. The JES/RECON interface software module for these tests was designed according to the specifications in the ICD's through 19 July 1983. Formal acceptance testing will be conducted utilizing a JES/RECON interface module based on results derived during the current interface definition phase. Formal acceptance testing is now projected for late October, depending on the availability of Ruffing Computer Center (RCC) access time for Sytek testing, as reflected in Reference C. Following successful completion of the formal acceptance tests the Guard System will be delivered to the RCC.

III. Program Activities Until Acceptance Test Completion:

To efficiently utilize the delay time caused by the JES/ICD discrepancies, the contractor has been instructed to direct parallel efforts in the following areas:

A. Continuation of Guard System Integration Testing

This activity should shorten the post delivery Guard System checkout period. The contractor will continue to simulate RECON system operation using the Online Guard, Update Guard, Security Officer Interface Device (SOID), and the Guard Test System (GTS)+ (Local Area Network Research System). The RECON test data interface, based on the 19 July ICD, will continue to be used for the integration testing. (Note the GTS simulates both the RECON data base management system and the standard COINS interface.)

B. RECON/JES Interface Definition

This effort will be controlled and executed by Sytek, Rockville, MD. Mr. Walter Bennett will continue as principal investigator with Mr. William Taylor as Sytek, Rockville, program manager.

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SUBJECT: RECON Guard System Revised Delivery Schedule

C. RECON Test Data Base Construction

The Update Guard System will be used to begin construction of the test RECON data base. Tapes containing unclassified RECON records will be supplied to Sytek. These tapes will then be transferred to Sytek, Mountain View, where they will be processed by the Update Guard and returned to OCR for insertion into the test RECON data base.

D. Re-Establish COINS-PMO Interface

The memorandum of understanding (MOU) between the COINS-PMO, D/OCR, and D/ODP has been signed. Thus the contractor has been instructed to reinitiate necessary efforts to implement the interface to the COINS system. This effort will be addressed by both Sytek, Mountain View, and Sytek, Rockville.

E. Enhanced Guard Devices

Development of the enhanced Online Guard Devices will continue. The enhanced Guard Devices will be included in the formal acceptance testing projected for October 1983.

IV. Formal Acceptance Testing:

The formal acceptance testing will be conducted in late October, prior to shipment of the RECON Guard System to the RCC facility. The formal acceptance testing will be repeated at the RCC immediately after Guard System installation and checkout. The acceptance tests will include the items presented in attachments 4 and 5 of the Interface Control Document. Data for the preshipment acceptance tests will be a tape containing unclassified RECON records supplied by OCR. Data for the post installation/checkout acceptance test will be the test RECON data base. The acceptance tests will be observed by ORD/ISR, D, OCR/IAB, OS/ISSG, and the J. P. Anderson Co. (RECON Guard program advisor).

V. Guard System Evaluation Phase:

The operational/security evaluation of the RECON Guard System will commence immediately after successful completion of the post shipment formal acceptance tests. Administrative control of the

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SUBJECT: RECON Guard System Revised Delivery Schedule

RECON Guard program will remain with ORD/ISRD. Day-to-day operational direction during this phase will rest with the customer office, OCR/IAB , which is charged with maintenance and operation of the RECON data base. During this period the confidence test (ICD Attachment 6) will be continuously repeated and observed, as well as normal RECON System operation, by the J. P. Anderson Co., OCR/IAB, and OS/ISSG.

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The extended Guard System integration testing at Sytek, Mountain View, CA (due to the above mentioned ICD discrepancies), should reduce the time necessary for the Guard System security/operational evaluation. The December/January time frame remains the projected program completion date.

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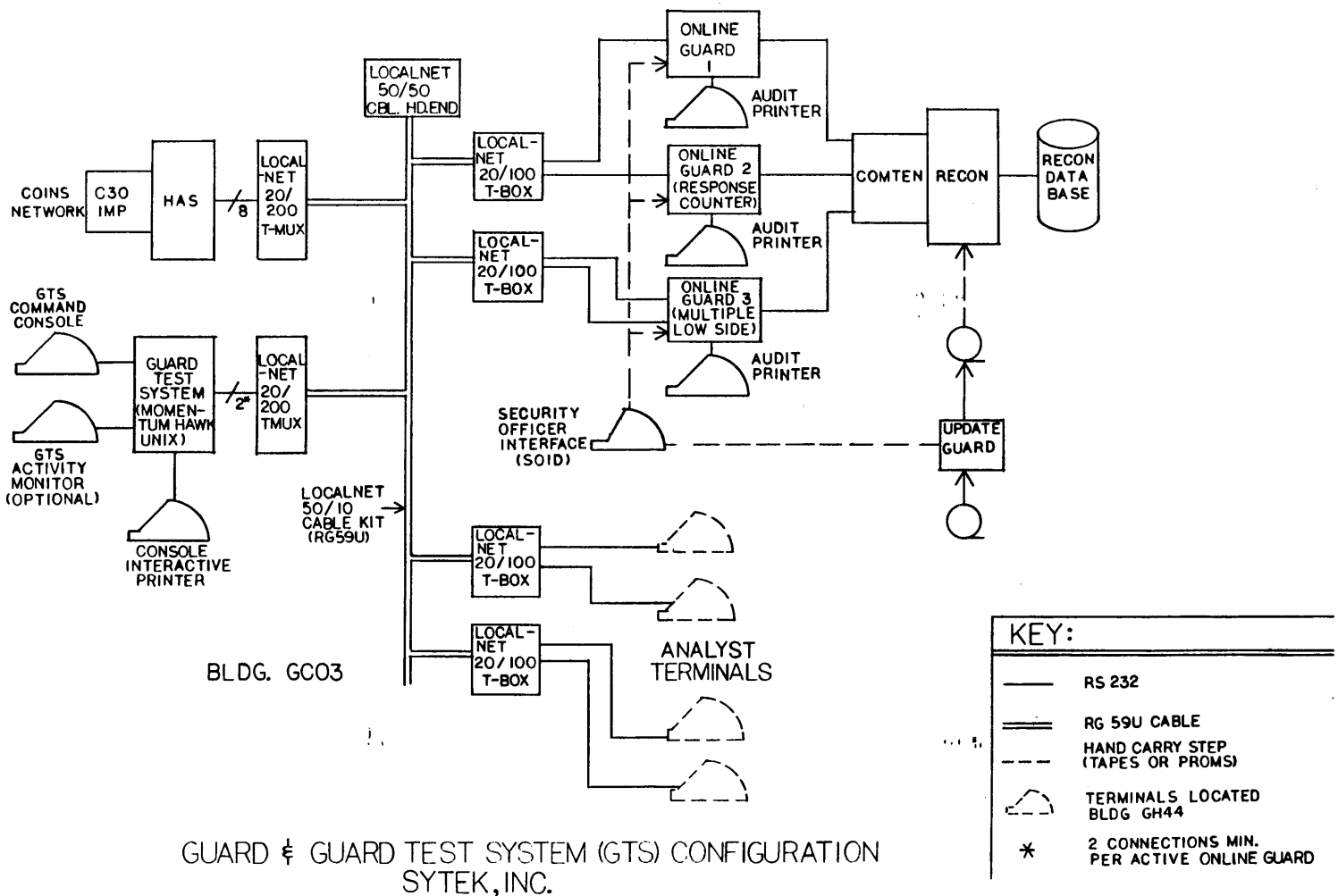
Attachments: a/s

Distribution:

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Sytek Phase 1 Report

ATTACHMENT A

INTEROFFICE MEMO

SYTEK, Inc.

DATE : August 30, 1983
 REF :

TO :

CC

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FROM : Walt Bennett

SUBJECT : Completion of Phase 1 Testing

I consider Phase 1 of the document "Phased Installation of Sea-Lion System", dated 28 July 83, completed. I have been able to observe that we have three communications links to Comten ports installed in the RCC. They have been terminated with female RS-232 type connectors, with all EIA control signals looped back to us. Transmit and receive clocks and data are the only through lines other than ground. The signal sense is being inverted to MIL from EIA, so we will not have to obtain a Versatron. The connector pinout is as follows:

Cable Side	Connector Pin & Jumper	Signal Name
Shield	1	Frame Gnd
Red	2	Tx Data
Blue	3	Rx Data
	----4	RTS
	----5	CTS
	----6	DSR
White	(7	Sig Gnd
	----8	CD
Brown	(15	Tx Clk
Green	(17	Rx Clk
	----20	DTR

Sytek Revised Delivery Schedule

ATTACHMENT B

RECON GUARD Delivery Configurations and Schedule

The following diagrams illustrate hardware configurations that Sytek will utilize in the staged completion of the RECON GUARD system delivery.

Each listed configuration is accompanied by a description of objectives, the phase start date and requirements that must be met by the Sponsor prior to the start of the Phase.

Eight phases are described:

1. COMTEN Electrical Characteristics Verification
2. Mt. View Acceptance Tests
3. Completion of Online Guard Interface Control Document (ICD)
4. Slave Board Implementation per ICD
5. On-site Acceptance Testing
6. Interface to RECON
7. GUARD Security Evaluation
8. Interface to HAS

The following mnemonics are used in these descriptions:

SOID	- Security Officer Interface Device.
UDG	- Update GUARD.
OLG	- Online GUARD.
BB	- Black box protocol converter.
GTS	- GUARD Test System.
UNIX	- The operating system which hosts the GTS software.
LANRS	- Local Area Network Research System.
JES/MVS	- IBM operating system.
ICD	- Interface Control Document.

Guard Phased Delivery

September 9, 1983

PHASE 1 -- COMTEN Electrical Characteristics Verification

Objective:

To determine exact electrical characteristics of the
COMTEN/RECON connection.

Start date:

The last week of July (depends on completing line installation).

Duration:

1-2 weeks.

Requirements:

- a. COMTEN installed and physical connections provided,
electrical/electronic means for transmitting and receiving
data provided.
- b. After hours testing time including escort for Walt Bennett.

This phase has been completed as of September 1, 1983.

| Interview 4500 |---| BB |---| COMTEN |---| JES |---| RECON |

Guard Phased Delivery

September 9, 1983

PHASE 2 -- Mt. View Acceptance Tests

Objective:

To conduct acceptance testing of the Guard System and GTS prior to shipment. Successful completion of this phase indicates the Guard System and GTS have properly implemented the design objectives as contained in the Sytek produced specifications documents approved by the Sponsor.

Start date:

17 October 1983.

Duration:

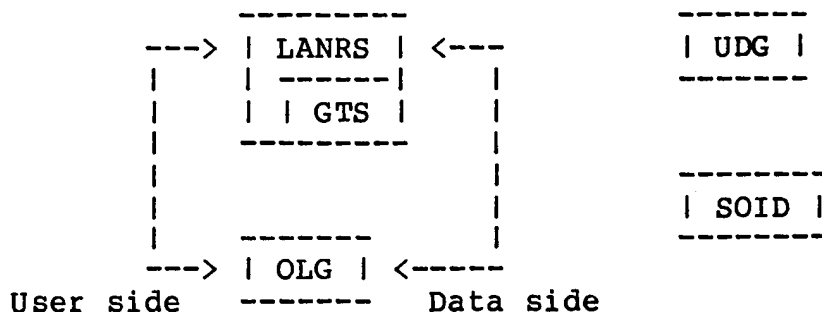
1 week

Requirements:

- ◆ Sponsor preparation of necessary UDG test tapes containing cases cited in Acceptance test documentation. These will be detailed in a memo to be released shortly.
- ◆ Sponsor personnel to conduct acceptance tests in Mt. View.
- ◆ Sponsor data tape to be used in acceptance tests.

Procedures:

The following equipment configuration will be used for acceptance testing:



Acceptance tests will be conducted by Sponsor personnel using Sponsor data provided for that purpose. Acceptance testing of the Guard System will include all items of the SYTEK TR-82016 "Test/Evaluation Plan and Procedures" dated 30 April 1982, Sections 3 and 4, plus items specified by the J.P. Anderson "proposed Acceptance Tests for RECON Guard" dated 20 February 1983.

Guard Phased Delivery

September 9, 1983

PHASE 3 -- Completion of OLG ICD

Objective:

To derive and document a complete and correct Interface Control Document utilizing results and information gained from analysis and testing of the original ICD.

Start date:

One week after the completion of Phase 1.

Duration:

Eight to ten weeks.

Requirements:

- a. Completion of Phase 1
- b. Access to machine time in the RCC. Up to three sessions per week for first 4 week period and for last 1 week period.
- c. Escort for Walt Bennett when needed for machine time sessions.
- d.

[Redacted]
- e. Any of the three equipment configurations shown below may be needed to gather data and complete the new ICD.

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<pre> ----- INTERVIEW --- ----- </pre>		
<pre> ----- INTERVIEW -- BB --- ----- </pre>		<pre> ----- - COMTEN -- JES -- RECON ----- </pre>
<pre> ----- SOID -- BB --- ----- </pre>		
<pre> ----- INTERVIEW --- ----- </pre>		

Guard Phased Delivery

September 9, 1983

PHASE 4 -- Slave Board Implementation per ICD

Objective:

To design, build and test a data side OLG slave which meets the ICD completed in Phase 3. To design, build and test a user side OLG slave which meets the ICD if user side requirements vary significantly from the 19 July 1983 ICD.

Start date:

The first week after completion of Phase 3. Estimated to be 31 October 1983.

Duration:

Will be estimated midway into Phase 3.

Requirements:

- ◆ Completion of phase 3.
- ◆ Continued lease of necessary development equipment throughout period.
- ◆ Maintenance of Guard System and GTS at Mt. View for testing of developed board.

Procedures:

Data Side SBC code will be developed and tested using the same procedures and personnel used to develop the guard system. Testing of the new board will be conducted in Mt. View using a leased Interview 4500 data analyzer and existing GTS capabilities to the maximum extent possible. Completion of testing and debugging will be conducted on-site using the actual COMTEN connection in the next phase. Upon completion of this phase the entire Guard System and GTS will be shipped to the Sponsor location.

Guard Phased Delivery

September 9, 1983

PHASE 5 -- On-Site Acceptance Testing

Objective:

Installation of the OLG, UDG, and SOID in the RCC. Repetition of Acceptance tests to ensure safe transit and delivery of proper equipment and software.

Start date:

The first week after completion of Phase 4.

Duration:

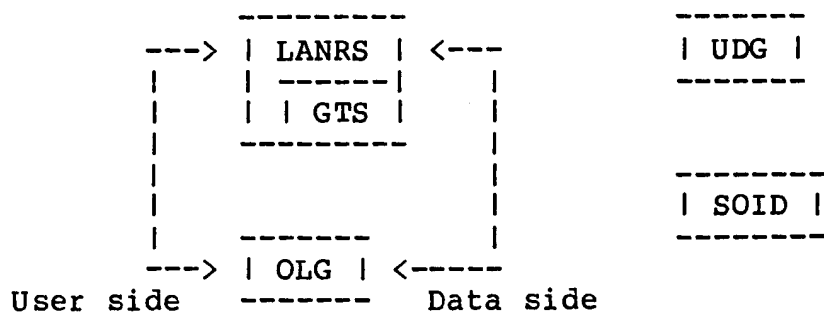
2-3 weeks

Requirements:

- ◆ Site properly prepared to accommodate GUARD hardware configuration. Government furnished equipment in place.
- ◆ Arrival of all shipped equipment in satisfactory condition.

Procedures:

The following initial equipment configuration will be used for on-site acceptance tests:



Acceptance tests conducted will be the same as those used in Phase 2.

Guard Phased Delivery

September 9, 1983

PHASE 6 -- Interface to RECON

Objective:

To provide operational interconnection of the OLG with the RECON.

Start date:

Upon completion of Phase 5.

Duration:

2-4 weeks

Requirements:

- ◆ Successful completion of prior phases.
- ◆ Identification of appropriate request records to test all aspects of the Guard/Comten interface. (This will require Sytek and Sponsor participation.)

Procedures:

The following hardware configuration will be used:

User side				Data side			
-----	-----	-----	-----	-----	-----	-----	-----
LANRS	-- OLG	-- BB	-- COMTEN	-- JES	-- RECON		
-----	-----	-----	-----	-----	-----		
GTS							

		-----		-----			
		UDG		SOID			
		-----		-----			

Note: An unclassified subset of the RECON Data Base will be used for this and all subsequent tests.

Note that the GTS is used in the HAS simulation mode. Sufficient request records are created on the GTS system during this period and submitted to RECON via the Guard to ensure correct operation.

Guard Phased Delivery

September 9, 1983

PHASE 7 -- GUARD Security Evaluation:

Objective:

To evaluate the security properties and operational characteristics of the GUARD System.

Start date:

Upon completion of Phase 6.

Duration:

12-13 weeks

Requirements:

Successful completion of previous phases.

Procedures:

The following hardware configuration will be used:

User side				Data side				
LANRS	--	OLG	--	BB	--	COMTEN	-- JES	-- RECON
	-----		-----		-----		-----	
GTS								
				-----	-----			
				UDG	SOID			
				-----	-----			

Confidence testing will be conducted according to "RECON Program Confidence Tests" dated 3 January 1983.

NOTE: Confidence testing will be conducted during periods will incorrectly configured Guards, and during periods with correctly configured Guards. (Incorrect configurations will include fake AGB's, improper Guard chassis slot selection etc.)

Guard Phased Delivery

September 9, 1983

PHASE 8 -- Interface to HAS

Objective:

To provide an operation interface between the HAS and Guard while connected to RECON.

Start date:

Upon completion of Phase 7.

Duration:

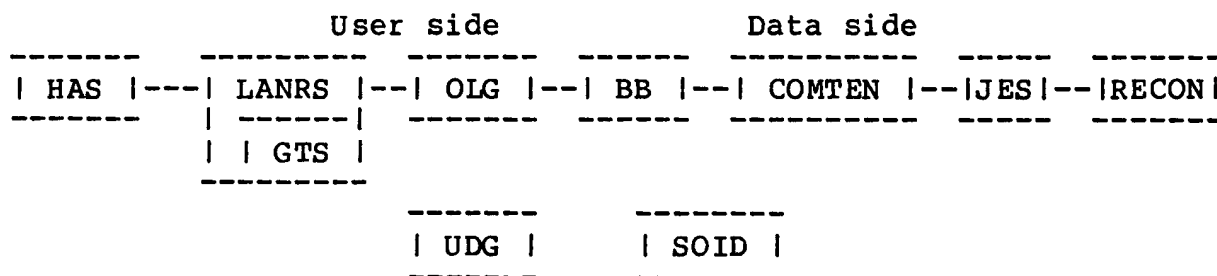
2-4 weeks

Requirements:

- ◆ HAS connections present.
- ◆ HAS interface software conforming to Sytek specifications provided with HAS.
- ◆ Successful completion of prior phases.

Procedures:

The following hardware configuration will be used:



Note: This testing will be conducted in two parts. In the first part queries will be submitted from a terminal directly connected to the HAS. In the second part queries will be submitted across the COINS Test Subnet. AT NO TIME WILL CLASSIFIED RECON RECORDS BE EXPOSED TO THE OPERATIONAL COINS NETWORK (Unless specifically approved by the participating Office Directors through the DCI).

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